USER'S MANUAL
ARTIK 4

ARTIK 4

Grand Touring

WELCOME

We wish to welcome you to our team and thank you for the confidence that you have placed in a NIVIUK Glider.

We would like to share with you the commitment, the passion and emotions of the Niviuk design team, which have resulted in the creation of the new ARTIK 4. Niviuk are very proud of this new glider, a glider carefully designed to bring you maximum pleasure whilst allowing you learn and progress.

Only by understanding the pilots, can you offer them what they really need. This is the reason why we now can deliver a compact, stable, comfortable, easy to handle glider blessed with a high degree of passive safety.

Go all the way and without limits! Fly kilometer after kilometer to wherever your imagination leads you; nothing can stop your determination and will to fly.

We are confident that you will enjoy flying this wing and that you will soon understand the meaning of our slogan: “The importance of small details”

This is the user’s manual that we recommend you to read in detail.

The **NIVIUK Gliders** Team.

NIVIUK GLIDERS & AIR GAMES SL C/ DEL TER 6, NAVE D 17165 LA CELLERA DE TER - GIRONA - SPAIN

TEL. +34 972 42 28 78 FAX +34 972 42 00 86

info@niviuk.com www.niviuk.com

USER’S MANUAL

NIVIUK Gliders ARTIK 4

This manual offers all the necessary information that will familiarize you with the main characteristics of your new paraglider. Although this manual informs you about your glider, it does not offer the instruction requirements necessary for you to be able to pilot this type of wing. Flying instruction can only be taught at a paragliding school recognized by the Flying Federation of your country.

Nevertheless we remind you that it is important that you carefully read all the contents of the manual for your new ARTIK 4.

Severe injuries to the pilot can be the consequence of the misuse of this equipment.

SUMMARY

WELCOME	2
USER'S MANUAL	2
1. CHARACTERISTICS	4
1.1 WHO IS IT DESIGNED FOR?	4
1.2 CERTIFICATION	4
1.3 IN-FLIGHT BEHAVIOUR	4
1.4 ASSEMBLY, MATERIALS	5
1.5 ELEMENTS, COMPONENTS	6
2. UNPACKING AND ASSEMBLY	6
2.1 CHOOSE THE RIGHT PLACE	6
2.2 PROCEDURE	6
2.3 ASSEMBLY TO THE ENGINE	6
2.4 TYPE OF HARNESS	6
2.5 ASSEMBLY OF THE ACCELERATOR	7
2.6 INSPECTION AND WING INFLATION ON THE GROUND	7
2.7 ADJUSTING THE BRAKES	7
3. THE FIRST FLIGHT	7
3.1 CHOOSE THE RIGHT PLACE	7
3.2 PREPARATION	7
3.3 FLIGHT PLAN	7
3.4 PRE-FLIGHT CHECK LIST	8
3.5 WING INFLATION, CONTROL, AND TAKE-OFF	8
3.6 LANDING	8
3.7 FOLDING INSTRUCTIONS	8
4. IN FLIGHT	8
4.1 FLYING IN TURBULENCE	8
4.2 POSSIBLE CONFIGURATIONS	8
4.3 USING THE ACCELERATOR	10
4.4 FLYING WITHOUT BRAKE LINES	10
4.5 KNOTS IN FLIGHT	10
5. LOSING HEIGHT	11
5.1 EARS	11
5.2 4B2 TECHNIQUE	11
5.3 B-LINE STALL	12
5.4 SPIRAL DIVE	12
5.5 SLOW DESCENT TECHNIQUE	12
6. SPECIAL METHODS	13
6.1 TOWING	13
6.2 ACROBATIC FLIGHT	13
7. CARE AND MAINTENANCE	13
7.1 MAINTENANCE	13
7.2 STORAGE	13
7.3 CHECKS AND CONTROLS	13
7.4 REPAIRS	14
8. SAFETY AND RESPONSABILITY	14
9. GUARANTEE	14
10. TECHNICAL DATA	15
10.1 TECHNICAL DATA	15
10.2 MATERIALS DESCRIPTION	16
10.3 RISERS PLAN	17
10.4 SUSPENSION PLAN	18
10.5 DIMENSIONS ARTIK 4 21	19
10.6 DIMENSIONS ARTIK 4 23	19
10.7 DIMENSIONS ARTIK 4 25	20
10.8 DIMENSIONS ARTIK 4 27	20
10.9 DIMENSIONS ARTIK 4 29	21
10.10 CERTIFICATION SPECIMEN TEST	22

1. CHARACTERISTICS

1.1 WHO IS IT DESIGNED FOR?

The ARTIK 4 has been designed for cross country pilots wanting to open the door to the world of cross country and for those pilots seeking to improve their performance in the Grand Touring Class without compromising safety.

The Artik 4 is an EN C glider. Please, do not use it if you do not have enough experience to fly this wing category.

Description of an EN C gliders main characteristics:

Moderate passive safety gliders with dynamic reactions in turbulence and mishandling. Glider recovery can require pilot intervention.

Description of the skills and experience required for EN C gliders:

To be flown only by pilots familiar with recovery techniques, active piloting, flying in turbulent conditions and able to handle this kind of demanding aircraft.

Only the aeronautical authorities of the respective countries can determine the pilot competence.

1.2 CERTIFICATION

The ARTIK 4 has successfully achieved the European EN/LTF certification. This test was carried out in the Swiss Air-Turquoise laboratories in Switzerland.

All the commercially available sizes passed every required test with excellent results and the ARTIK 4 received EN C / LTF C certification for all sizes.

The ARTIK 4 passed the essential load test of 8g without experiencing any problems.

We recommend paying special attention on the flight test report made by the certification laboratory, and specially attention to the test pilot comments (Point 25 on the flight test report).
On the flight test report there is all necessary information to know how the new paraglider will react on each manoeuvre tested.
It is important to take into account that each size can have a different reaction on the same manoeuvre. Furthermore, the same size on maximum load o minimum load can experiment a different behaviour.

Check the certification results and figures on the last pages of this manual or at www.niviuk.com

1.3 IN-FLIGHT BEHAIVOR

With progressive, predictable and efficient handling the ARTIK 4 effectively reads the air mass, seeking out and coring thermals with efficiency and ease. The ARTIK 4 remains agile, light and predictable in all conditions of flight and behaves impeccably during turbulence.

The first thing you will notice under the ARTIK 4 is the softer inflation followed by the capacity for the glider to take off serenely.

The profile has also been modified and includes the RAM Air Intake technology to keep the glider steady in any situation. Additionally, it transmits clear information to the pilot to let him focus on the pleasure of flying.

With its superb gliding even when fully accelerated, the ARTIK 4's efficiency could be compared to an EN D glider but yet, with the handling abilities as an EN C wing.

Piloting it is intuitive in all sense; allowing the pilot to make instant

corrective decisions even in strong thermal conditions.

When pushed out, the speedbar is an efficient implement for a smooth, stable and yet strong acceleration throughout the whole travel range and hence producing an excellent sink rate as a result. The glider turns more precisely and effortlessly. Having it all under control you can then, make better decisions to truly enjoy the flight.

1.4 ASSEMBLY, MATERIALS

The ARTIK 4 has all the technological innovations as used on other Niviuk gliders. Furthermore it is full of small details destined to enhance the pilots' comfort and to improve the performance of the SLE, RAM, DRS and 3 liner.

SLE.- The SLE allows reinforcement of the leading edge preventing any deformation during turbulence. The airflow is also vastly improved over the entire front span of the glider.

RAM.- The RAM air intake allows for optimal air intakes positioning (below the glider's leading edge aligned with the intrados), turbulent air buffering at the front of the wing, bringing more consistency in variable speeds, and increasing performance while assuring maximum safety.

DRS.-The trailing edge has been reinforced with small ribs that make thispart flatter in order to spread the pressure out evenly. It means better air-flow and less drag on this important part of the glider. The addition of theseribs gives exceptional handling (better and more efficient whenturning) and more control and precision.

3LT.- Its powerful profile, a detailed internal architecture structure and the useof high-tech strength materials make possible a significant reduction of thetotal length of suspension lines in order to reduce the parasite resistance andthe weight of the glider to gain efficiency.

A whooping 8,77% in weight reduction demonstrates the effort and accomplishment made to reduce the glider inner bulk and profile resulting, more performance, enhanced safety and comfort.

The ARTIK 4 lines are made of Dyneema Liros for the upper cascades and Vectram Cousin for main and middle cascades. This is the same material combination found in top gliders.

Both Dyneema and Vectram are unsheathed lines, which are slightly more exposed to normal wear and tear. It is strongly recommended for all the lines to be thoroughly inspected every 100 hours of flight. Keep in mind that we are using materials with great performance of a rigorous check before each flight.

Not a single millimetre of error is possible in the manufacturing process from Olivier's computer to the cutting of the fabric. An automatic process controlled by a laser-cutting program cuts each of the sections that compose the different parts of the wing. This program not only cuts the pieces of fabric but it also paints the guideline marks that will aid the assembly; it also numbers the separate pieces of material. All this is carried out before human handling of the pieces begins. So we eliminate possible and understandable errors that may occur during this delicate procedure.

The lines are semi-automatically manufactured and all the sewing is finished under the supervision of our specialists. The jigsaw puzzle of the assembly process is made easier using this method. We minimize the processes while making the quality control more efficient. All the different parts of the canopy are cut and assembled under the strict conditions induced by the automation of the whole process.

It is strongly recommended that all lines are thoroughly checked by the pilot prior to every flight and ultimately checked by a service centre or Niviuk dealer after every 100 hours of flight. We should not forget that we are using materials with great performance but that they need a rigorous

check before every flight.

All NIVIUK Gliders go through an extremely thorough and efficient final inspection. Every single line of each glider is measured individually once the final assembly has concluded. Each wing is then individually inflated for the last visual revision.

Each glider is packaged following the maintenance and conservation instructions recommended for the advanced materials. NIVIUK Gliders are made of first class materials as demanded by the performance, durability, and homologation requirements of the present-day market.

Information about construction materials is given on the last pages of this manual.

1.5 ELEMENTS, COMPONENTS

The ARTIK 4 is delivered with accessories taking an important role in the use, transport and storage of the paraglider:

- The large capacity Kargo rucksack, ideal for packing the harness as well as the glider. Capacity and comfort all in one.
- An internal folding bag making the glider folding process easier. An adjustable folding strap for a quick and easy glider packing.
- One speedbar.
- A small fabric repair kit including auto adhesive rips top with matching wing color scheme and replacement maillon blockers.

2. UNPACKING AND ASSEMBLY

2.1 CHOOSE THE RIGHT PLACE

We recommend that you unpack and assemble your wing on a schooling slope or a flat clear area without too much wind and free of obstacles.

These conditions will allow you to carry out all the steps required for you to check and inflate the ARTIK 4.

We recommend that an instructor or a retailer supervises the entire procedure as only they are competent to resolve any doubt in a safe and professional way.

2.2 PROCEDURE

Take the paraglider out of the rucksack, open it and spread it open with the lines on top of the underside, position the wing as if you were to inflate it. Check the condition of the fabric and the lines, making sure there are no abnormalities.

Check the maillons, which attach the lines to the risers, are properly closed. Identify and if necessary disentangle the lines from A and B risers, the brake lines and the corresponding risers. Make sure that there are no ties or knots.

2.3 ASSEMBLY OF THE HARNESS

Correctly place the risers on the harness karabiners. The risers and lines should not have any twists and they should be in the right order. Check that the harness buckles are correctly locked.

2.4 TYPE OF HARNESS

The Artik 4 can be flown with any kind of harness, including cocoon type models. The chest strap harness distance for each size:

Sizes 23 and 25 (42cm) / Sizes 27 and 29 (46 cm).

Incorrect adjustment can seriously affect the piloting of the glider. A distance, which is too wide between the karabiners, may provide more feedback but could affect the overall stability of the glider. A distance,

which is too narrow between the karabiners, would provide less feedback but also increase any risk of developing a twist in during a large collapse.

2.5 ASSEMBLY OF THE ACCELERATOR

The acceleration mechanism of the ARTIK 4 works when you push with your feet on the accelerator bar, this is supplied with the equipment. On delivery the accelerator bar has not yet been installed and it is recommended that it is fit by yourself before flight.

Most harnesses are equipped with a pre-installed acceleration system. When fitting any accelerator system ensure that all preinstalled items within the harness, such as roller pulleys are used correctly. After fitting, take into account that you will have to adjust the length of the accelerator lines for correct use. This will vary according to the length of the pilot's legs!

We recommend that you try the correct fitting of the acceleration system on equipment designed to do this, most paragliding schools have this sort of equipment.

2.6 INSPECTION AND WING INFLATION ON THE GROUND

Once you have checked all the equipment and made sure that the wind conditions are favourable, inflate your ARTIK 4 as many times as necessary in order to become acquainted with the wing's behaviour. The ARTIK 4 inflates easily and smoothly. An excess of energy is not necessary and the wing will inflate with minimum pressure on the harness when you move forward. This may be assisted by using the A lines. Do not pull on them; just accompany the natural rising movement of the wing. Once the wing is in the 12 o'clock position, simply apply correct pressure on the brake lines and the ARTIK 4 will sit over your head.

2.7 ADJUSTING THE BRAKES

The length of the main brake lines is adjusted at the factory to the length established during certification. However, the length can be changed to adapt to the pilot's flying style. Nevertheless, we recommend that you fly for a while with these, set at the original length. This will allow you to become accustomed to the ARTIK 4 and its unique flying behaviour. If you then decide to change the length of the brake lines, untie the knot, slide the line through the brake link to the desired length, and strongly re-tie the knot. Qualified personnel should carry out this adjustment. You must ensure that this adjustment does not slow down the glider without any pilot input. Both brake lines should be symmetrical and measure the same length. The most recommended knots are the clove hitch knot or bowline knot.

When changing the brakes length, it is necessary to check that they do not act when the accelerator is used. When we accelerate the glider rotates over the C riser and the trailing edge elevates. We must check that the brake is adjusted taking in consideration this extra length in acceleration.

3. THE FIRST FLIGHT

3.1 CHOOSE THE RIGHT PLACE

We recommend that the first flight with your ARTIK 4 is made on a smooth slope (a school slope) or in your usual flying area.

3.2 PREPARATION

Repeat the procedures detailed in chapter 2 UNPACKING AND ASSEMBLY in order to prepare your equipment.

3.3 FLIGHT PLAN

Draw out a flight plan before take-off in order to avoid possible flight

errors.

3.4 PRE-FLIGHT CHECK LIST

Once you are ready, but before you take-off, carry out another equipment inspection. Ensure correct installation of all equipment and that all lines are free of hindrances or knots. Check that the weather conditions are suited for your flying skills.

3.5 WING INFLATION, CONTROL, AND TAKE-OFF

Smoothly and progressively inflate the wing (chapter 2.6 INSPECTION AND WING INFLATION ON THE GROUND). The ARTIK 4 inflates easily and does not require excessive energy. It does not tend to over-take you, so the wing inflation phase is carried out without anguish. These take off characteristics provide a perfect control phase and enough time for the pilot to decide whether to accelerate and take off.

Whenever the wind speed allows it, we recommend a reverse launch technique; this type of launch allows you to carry out a better visual check of the wing. The ARTIK 4 is especially easy to control in this position in strong winds. However, wind speeds up to 25 to 30 km/h are considered strong and extra consideration should be given to any thought of flight.

Preparation and positioning of the wing on the take-off is especially important. Choose a location which is appropriate for the direction of the wind. Position the paraglider as if it were part of a large circle, taking into account the shape of the canopy in flight. All this will assist in a trouble free take-off.

3.6 LANDING

The ARTIK 4 lands excellently, it transforms the wing speed into lift on the pilot's demand, allowing an enormous margin of error. You will not have to wrap the brake lines around your hand to get greater braking efficiency.

3.7 FOLDING INSTRUCTIONS

The ARTIK 4 has a complex leading and trailing edge, manufactured using a variety of different materials. For that reason, the use of a correct folding method is very important for extending the useful life of your paraglider. It should be folded like an accordion, with the leading edge reinforcements flat and the nylon sticks positioned one upon the other. This method will ensure that the profile remains in good shape without altering its form or its performance.

The wing should then be folded in three parts taking care of not bending or twisting the STE. The wing does not have to be tightly folded, if you do so it may damage the material and or the lines.

4. IN FLIGHT

4.1 FLYING IN TURBULENCE

The ARTIK 4 has an excellent profile to withstand the very different aerological conditions so allowing the best possible piloting and stability. It reacts admirably in passive flight, thus offering a high level of safety in turbulent conditions. Nonetheless, the pilot always has to pilot according to the prevailing weather conditions, the pilot is the ultimate safety factor. We recommend active piloting, making the necessary fine adjustments to keep the wing in control. He/she should stop braking to allow it to fly at the required wing speed after a correction is made.
Do not maintain any correction for longer than necessary (braked) this would cause the wing to enter into critical flying situation. Whenever necessary, control a situation, react to it and then re-establish the required speed.

4.2 POSSIBLE CONFIGURATIONS

We recommend that training to master these manoeuvres be carried out under the supervision of a competent school.

Asymmetric collapse

In spite of the stability of the profile of the ARTIK 4, heavy turbulent conditions may cause part of the wing to collapse asymmetrically. This usually happens when the pilot has not foreseen this possible reaction of the wing. When the wing is about to experience an asymmetric collapse the brake lines and the harness will transmit a loss of pressure to the pilot. To prevent the collapse from happening, pull the brake line corresponding to the compromised side of the wing, this will increase the angle of incidence. If the collapse does happen the ARTIK 4 will not react violently, the turn tendency is very gradual and it is easily controlled. Lean your body towards the side that is still flying in order to counteract the turn and to maintain a straight course, if necessary slightly slow down the same side. The collapse will normally open by itself but if that does not happen, pull completely on the brake line on the side, which has collapsed (100%). Do this with a firm movement. You may have to repeat this operation to provoke the re-opening. Take care not to over-brake on the side that is still flying (turn control) and when the collapse has been solved; remember to let the wing recover its flying speed.

Symmetric collapse
In normal flying conditions the design of the ARTIK 4 ensures that a symmetric collapse is quite improbable. The profile of the wing has been designed to widely tolerate extreme changes in the angle of incidence. A symmetric collapse may occur in heavy turbulent conditions, on entry or exit of strong thermals or lack of adapting the use of the accelerator to the prevailing air conditions. Symmetrical collapses usually re-inflate without the glider turning but you can symmetrically apply the brake lines with a quick deep pump to quicken the re-inflation. Release the brake lines immediately to recover optimum flight speed.

Negative spin

This configuration is out of the normal flight behaviour of the ARTIK 4. Certain circumstances however, may provoke this configuration such as trying to turn when the wing is flying at very low speed (while heavily braking). It is not easy to give any recommendations about this situation since it varies depending on the circumstances. Remember that you should restore the relative air speed over the wing. To achieve this, progressively reduce the pressure on the brake lines and let the wing gain speed. The normal reaction would be a lateral surge with a turn tendency no greater than 360º before restoring to normal flight conditions.

Parachutal stall

If it does happen, the feeling would be that the wing would not be advancing; you would feel a kind of instability and a lack of pressure on the brake lines, although the canopy would appear to be correctly inflated. The correct reaction would be to release the pressure on the brake lines and push the A lines forward or rather lean your body to any side WITHOUT PULLING ON THE BRAKE LINES.

Deep stall
The possibility of the ARTIK 4 falling into this configuration during normal flight is very unlikely. This could happen if you are flying at a very low speed, whilst over steering in a number of manoeuvres and in turbulent conditions. To provoke a deep stall you have to take the wing to minimum flight speed by symmetrically pulling the brake lines, when you reach this point, continue pulling until you reach 100% and then hold. The glider will first fall behind you and then situate itself above you, rocking slightly, depending on how the manoeuvre was carried out. When you start to provoke a stall, be positive and do not doubt an instant. Do not release the brake lines when half way through the manoeuvre. This would cause the glider to surge violently forward with great energy and may result in the wing below the pilot. It is very important that the pressure on the brake lines is maintained until the wing is well established vertical above. To regain normal flight conditions, progressively and symmetrically release the brake lines, letting the speed be re-established. When the

wing reaches the maximum advanced position ensure that the brakes are fully released. The wing will now surge forward, this is necessary so that air speed is completely restored over the wing. Do not over brake at this point because the wing needs to recover speed to quit the stall configuration. If you have to control a possible symmetrical front stall, briefly and symmetrically pull on the brake lines and let go even when the wing is still ahead of you.

Wing tangle

A wing tangle may happen after an asymmetric collapse, the end of the wing is trapped between the lines (Cravat). This situation could rapidly cause the wing to turn, although it depends on the nature of the tangle. The correction manoeuvres are the same as those applied in the case of an asymmetrical collapse, control the turn tendency by applying the opposite brake and lean your body against the turn. Then locate the line that reaches the stabiliser that is trapped between the other lines. This line has a different colour and belongs to the external lines of the C riser for sizes 23 and 25 and B riser for sizes 21, 27 and 29.

Pull on this line until it is tense, this should help to undo the wing tangle. If you cannot undo the tangle, fly to the nearest possible landing spot, control the flying course with your body movements and a little pressure on the opposite brake. Be careful when attempting to undo a tangle if you are flying near a mountainside or near to other paragliders, you may lose control of the flying course and a collision may occur.

Over handling

Most flying incidents are caused by incorrect actions of the pilot, which chained one after another creates abnormal flying configurations (a cascade of incidents). You must remember that over handling the wing will lead to critical levels of functioning. The ARTIK 4 is designed always to try to recover normal flight by itself, do not try to over handle it.
Generally speaking, the reactions of the wing, which follow over handling, are neither due to the input made or the intensity, but the length of time the pilot continues to over handle. You have to allow the profile to re-establish normal flight speed after any type of handling.

4.3 USING THE ACCELERATOR

The profile of the ARTIK 4 has been designed to fly stable through its entire speed range. It is useful to accelerate when flying in strong winds or in extreme descending air. When you accelerate the wing, the profile becomes more sensitive to possible turbulence and closer to a possible frontal collapse. If you feel a pressure loss, you should release the pressure on the accelerator and pull slightly on the brake lines to increase the angle of incidence. Remember that you have to re-establish the flight speed after correcting the incidence.

It is NOT recommended to accelerate near to the mountainside or in very turbulent conditions. If necessary you will have to constantly adjust the movements and pressure on the accelerator whilst constantly adjusting the pressure applied to the brake lines. This balance is considered to be “active piloting.”

4.4 FLYING WITHOUT BRAKE LINES

If, for any reason at all, you cannot use the brake lines of your ARTIK 4 you will have to pilot the wing using the C-risers and your body weight to fly towards the nearest landing. The C-lines steer easily because they are not under pressure, however you have to be careful not to over handle them causing a stall or negative turn. To land you have to let the wing fly at full speed and before reaching the ground you will have to pull symmetrically on both the C-risers. This braking method is not as effective as using the brake lines so you will land at a higher speed.

4.5 KNOTS IN FLIGHT

The best way to avoid these knots and tangles is to inspect the lines

before you inflate the wing for take-off. If you notice a knot before take-off, immediately stop running and do not take-off.
If you have taken-off with a knot you will have to correct the drift by leaning on the opposite side of the knot and apply the brake line on that side too. You can gently try to pull on the brake line to see if the knot becomes unfastened or try to identify the line with the knot in it. Try to pull the identified line to see if the knot undoes. Be very careful when trying to remove a knot. When there are knots in the lines or when they are tangled, do not pull too hard on the brake lines because there is an increased risk of the wing to stalling or negative turn being initiated

Before trying to remove a knot, make sure there are no pilots flying nearby and never try these manoeuvres near the mountainside. If the knot is too tight and you cannot remove it, carefully and safely fly to the nearest landing place.

5. LOSING HEIGHT

The knowledge of the different descent techniques is an important resource to use in certain situations. The most adequate descent method will depend on the particular situation.

We recommend that you learn to use these manoeuvres under the tuition of a competent school.

5.1 EARS

Big ears is a moderate descent technique, achieving about –3 or –4 m/s and a reduction in ground speed of between 3 and 5 km/h. Effective piloting then becomes limited. The angle of incidence and the surface wing load also increases. Push on the accelerator to restore the wing's horizontal speed and the angle of incidence.

To activate big ears outer line 4A2 on each A risers and simultaneously, smoothly pull them outward and downward. The wingtips will fold in. Let go of the lines and the big ears will re-inflate automatically. If they do not re-inflate, gently pull on one of the brake lines and then on the opposite one. We recommend that you re-inflate asymmetrically, not to alter the angle of incidence, more so if you are flying near the ground or flying in turbulence.

5.2 4B2 TECHNIQUE

On the new generation paragliders the application of big ears can create a high degree of trailing turbulence which in turn creates a significant loss of airspeed. When big ears are applied to high aspect ratio wings the ears tend to "flap" which also adds to the amount of unwanted turbulence.

This new rapid descent technique was first discovered by our Niviuk team Pilots in 2009 while flying a competition prototype wing, which because of its line plan and high aspect ratio would not allow big ears to be applied. In fact big ears on wings with a profile of 2 lines can often prove difficult.

For all these reasons, we advise the use of the 4B2 line descent technique. This technique ensures a rapid descent is achieved whilst forward wing speed is maintained and so the risk of a deep stall is eliminated.

HOW?

Locate the 4B2 on your risers and as you would when applying big ears simply pull down firmly and smoothly until you see both wingtips drop back slightly. The forward speed of the glider speed will then reduce slightly, quickly stabilize and then increase. You will then experience a fall rate of around 5-6m/s. Controlled turning of the wing can easily be maintained by weight shifting the harness, exactly the same as you would with big ears. We recommend the application of the speed bar

whilst using this technique. To exit the maneuver release the lines as you would with big ears, control the pitch and the wing will quickly adopt normal flight.
This new technique allows a comfortable and controllable rapid descent without the risk of experiencing a “cravat” or “deep stall”.

We advise you to first try this technique in smooth conditions with sufficient altitude above appropriate terrain.

5.3 B-LINE STALL

When you carry out this manoeuvre, the wing stops flying, it loses all horizontal speed and you are not in control of the paraglider. The air circulation over the profile is interrupted and the wing enters into a situation similar to parachuting.

To carry out this manoeuvre you have to take the B-risers below the maillons and symmetrically pull both of them down (approx. 20-30 cms) and then hold this position. The initial phase is quite physical (hard resistance) which means that you will have to pull strongly until the profile of the wing is deformed, when this happens the required force will then significantly reduce. To maintain this manoeuvre you must continue to hold the B Lines in the pulled down position. The wing will then become deformed, horizontal speed drops to 0 km/h and vertical speed increases to –6 to –8 m/s depending on the conditions and how the manoeuvre has been performed.

To exit the manoeuvre, simultaneously release both risers, the wing will then slightly surge forward and then automatically return to normal flight. It is better to let go of the lines quickly rather than slowly. This is an easy manoeuvre but you must remember that the wing stops flying, it loses all horizontal movement and its reactions are very different compared to normal flight.

5.4 SPIRAL DIVE

This is a more effective way for rapidly losing height. You have to know that, the wing can gain a lot of vertical speed and rotation speed (G force). This can cause a loss of orientation and consciousness (blackouts). These are the reasons why it is best to carry out this manoeuvre gradually so your capacity to resist the G forces increases and you will learn to fully appreciate and understand the manoeuvre.
Always practice this manoeuvre when flying at high altitude.
To start the manoeuvre, first lean your bodyweight and pull the brake line to the side to which you are leaning. You can regulate the intensity of the turn by applying a little outside brake.
A paraglider flying at its maximum turn speed can reach –20 m/s, equivalent 70 km/h vertical speed and stabilize in a spiral dive from 15 m/s onwards.

These are the reasons why you should be familiar with the manoeuvre and know how to carry out the exit methods.
To exit this manoeuvre you must progressively release the inside brake and also momentarily apply outside brake. Whilst doing this you must also lean your bodyweight towards the outside. This exit manoeuvre has to be carried out gradually and with smooth movements so you can feel the pressure and speed changes at the same time.
The after effect of the exit manoeuvre is that the glider will rock briefly with lateral surge, depending on how the manoeuvre has been carried out.
Practice these movements at sufficient altitude and with moderation.

5.5 SLOW DESCENT TECHNIQUE

Using this technique (do not hurry to descend) we will fly normally, without forcing neither the material nor the pilot. It means looking for descending air areas and turn as it was a thermal – in order to descend. We have to avoid danger areas when looking for descent zones. Safety is the most important thing.

6. SPECIAL METHODS

6.1 TOWING

The ARTIK 4 does not experience any problem whilst being towed. Only qualified personnel should handle the qualified equipment to carry out this operation. The wing has to be inflated in the same way as in normal flight.

6.2 ACROBATIC FLIGHT

Although the ARTIK 4 has been tested by expert acrobatic pilots in extreme situations, it HAS NOT been designed for acrobatic flight and we DO NOT RECOMMEND THE USE OF THIS GLIDER for that use.

We consider acrobatic flight to be any form of piloting that is different to normal flight. To learn safely how to master acrobatic manoeuvres you should attend lessons, which are carried out and supervised by a qualified instructor over water. Extreme manoeuvres take you and your wing to centrifugal forces that can reach 4 to 5g.

Materials will wear more quickly than in normal flight. If you do practice extreme manoeuvres we recommend that you submit your wing to a line revision every six months.

7. CARE AND MAINTENANCE

7.1 MAINTENANCE

Careful maintenance of your equipment will ensure continued performance. Always check all the flying equipment before every flight.

Careful maintenance of your equipment will ensure continued performance. The fabric and the lines do not need to be washed, if they become dirty, clean them with a soft damp cloth.

If your wing gets wet with salty water, immerse it in fresh water and dry it away from direct sunlight. The sunlight may damage the materials of your wing and cause premature aging. Once you have landed, do not leave the wing in the sun, store it properly.

If you use your wing in a sandy area, try to avoid the sand from entering through the cell openings of the leading edge. If sand is inside the wing, remove it before folding.

If it gets wet of sea water, you should submerge it into fresh water and let it dry far away from the sun.

7.2 STORAGE

It is important that the wing is correctly folded when stored. Store your flying equipment in a cool, dry place away from solvents, fuels or oils. It is not advisable to store your flying equipment in the trunk of your car. Temperatures inside a car parked in the sunlight, can be very high. Inside a rucksack and in the sunlight temperatures can reach 60ºC. Weight should not be laid on top of the equipment.

If the flying gear is stored with organic material (such as leaves or insects) inside, the chemical reaction can cause irreparable damage.

7.3 CHECKS AND CONTROLS

You should ensure your ARTIK 4 is periodically serviced and checked at your local repair shop every 100 hours of use or every 24 months (whichever happens first). This is the only way to guarantee that your ARTIK 4 will continue to function properly and therefore continue fulfilling the homologation certificate results.

In spite of providing much more benefits to the pilots, gliders equipped

with unsheathed lines need more care and control of the calibration. The ARTIK 4 mechanic and UV resistance are one of the highest for this type of line. With this gliders every little variation on the calibration of the lines has a directly effect on the performance of the wing.

We recommend checking the lines calibration after the first 30 hours +/- of flight. This line check is a separate procedure from the regular inspection after each subsequent 100 hours of use or every two years (whichever happens first).

Why is it necessary?

Due to the experience acquired over time, constant controls and inspections conducted by our R&D department in regard to the Abac Team gliders, we are now able to predict gear aging and how to appropriately take care of this kind of lines, thus keeping the wing profile in top performing condition. Following the recommended glider service checks will keep the wing in optimal performance.

Variable weather conditions in various parts of the world, temperature, humidity, wing load, will determine and affect to various degrees the lifespan of the wing and reasons why regular line checks should be maintained. Inspection must be conducted by certified qualified personal only. Do not modify you glider in anyway or any reason. Contact your authorized dealer or Niviuk if in doubt on how to proceed in case of needed repairs.

7.4 REPAIRS

If the wing is damaged, you can temporarily repair it by using the rip stop found in the repair kit, so long as no stitches are involved in the tear. Any other type of tear must be repaired in a specialized repair shop or by qualified personnel. Do not accept a home repair.

8. SAFETY AND RESPONSIBILITY

It is well known that paragliding is considered a high-risk sport, where safety depends on the person who is practising it.

Wrong use of this equipment may cause severe injuries to the pilot, even death. Manufacturers and dealers are not responsible for any act or accident that may be the result of practicing this sport.

You must not use this equipment if you are not trained. Do not take advice or accept any informal training from anyone who is not properly qualified as a flight instructor.

9. GUARANTEE

The entire equipment and components are covered by a 2-year guarantee against any manufacture fault.

The guarantee does not cover misuse or abnormal use of the materials.

10. TECHNICAL DATA

10.1 TECHNICAL DATA

ARTIK 4			**21**	**23**	**25**	**27**	**29**
CELLS	NUMBER		63	63	63	63	63
	CLOSED		10	10	10	10	10
	BOX		23	23	23	23	23
FLAT	AREA	M^2	21	23	24,5	26,5	29
	SPAN	M	11,32	11,85	12,23	12,71	13,3
	ASPECT RATIO		6,1	6,1	6,1	6,1	6,1
PROJECTED	AREA	M^2	17,8	19,5	20,77	22,46	24,59
	SPAN	M	9,01	9,43	9,73	10,12	10,59
	ASPECT RATIO		4,6	4,6	4,6	4,6	4,6
FLATTENING		%	15	15	15	15	15
CORD	MAXIMUM	M	2,28	2,4	2,47	2,56	2,68
	MINIMUM	M	0,53	0,55	0,57	0,59	0,62
	AVERAGE	M	1,85	1,94	2	2,08	2,18
LINES	TOTAL METERS	M	226	237	245	255	267
	HEIGHT	M	6,9	7,22	7,46	7,75	8,11
	NUMBER		226	226	226	226	226
	MAIN		2/3/2	1/1/2/3	1/1/2/3	2/3/2	2/3/2
RISERS	NUMBER	3/4	A/B/C	A/A'/B/C	A/A'/B/C	A/B/C	A/B/C
	TRIMS		NO	NO	NO	NO	NO
	ACCELERATOR	M/M	105	150	150	150	150
TOTAL WEIGHT	MINIMUM	KG	60	60	75	90	105
IN FLIGHT	MAXIMUM	KG	73	80	95	110	126
GLIDER WEIGHT		KG	4,3	4,9	5,2	5,6	6
CERTIFICATION		EN/LTF	C	C	C	C	C

10.2 MATERIALS DESCRIPTION

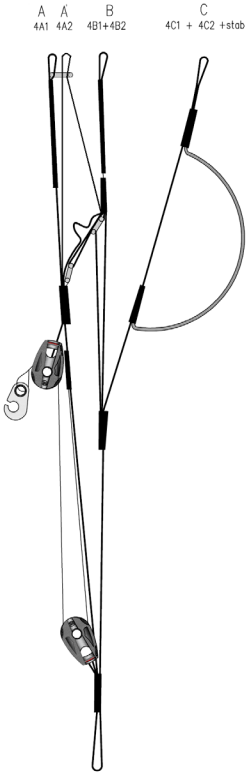
CANOPY	FABRIC CODE	SUPPLIER
UPPER SURFACE	9017 E25	PORCHER IND (FRANCE)
BOTTOM SURFACE	D20DMF-36	DOMINICO TEX CO (KOREA)
RIBS	9017 E29	PORCHER IND (FRANCE)
DIAGONALS	9017 E29	PORCHER IND (FRANCE)
LOOPS	LKI - 10	KOLON IND. (KOREA)
REINFORCEMENT LOOPS	W-420	D-P (GERMANY)
TRAILING EDGE REIFORCEMENT	MYLAR	D-P (GERMANY)
REINFORCEMENT RIBS	NYLON STICK	R.P.CHINA
THREAD	SERAFIL 60	AMAN (GERMANY)

SUSPENSION LINES	FABRIC CODE	SUPPLIER
UPPER CASCADES	DC - 40	LIROS GMHB (GERMANY)
UPPER CASCADES	DC - 60	LIROS GMHB (GERMANY)
UPPER CASCADES	DC - 100	LIROS GMHB (GERMANY)
UPPER CASCADES	12100-50	COUSIN (FRANCE)
MIDDLE CASCADES	DC - 40	LIROS GMHB (GERMANY)
MIDDLE CASCADES	DC - 60	LIROS GMHB (GERMANY)
MIDDLE CASCADES	DC - 100	LIROS GMHB (GERMANY)
MIDDLE CASCADES	12240-115	COUSIN (FRANCE)
MIDDLE CASCADES	12470-200	COUSIN (FRANCE)
MIDDLE CASCADES	16140-70	COUSIN (FRANCE)
MIDDLE CASCADES	16330-145	COUSIN (FRANCE)
MIDDLE CASCADES	12100-50	COUSIN (FRANCE)
MIDDLE CASCADES	12240-115	COUSIN (FRANCE)
MAIN	16560-240	COUSIN (FRANCE)
MAIN	12470-200	COUSIN (FRANCE)
MAIN	16140-70	COUSIN (FRANCE)
MAIN	12950-405	COUSIN (FRANCE)
MAIN BREAK	TNL-280	TEIJIM LIMITED (JAPAN)
THREAD	SERAFIL 60	AMAN (GERMANY)

RISERS	FABRIC CODE	SUPPLIER
MATERIAL	3455	COUSIN (FRANCE)
COLOR INDICATOR	PAD	TECNI SANGLES (FRANCE)
THREAD	V138	COATS (ENGLAND)
MAILLONS	AS-3.8-20	ANSUNG PRECISION (KOREA)
PULLEYS	224	HARKEN (USA)

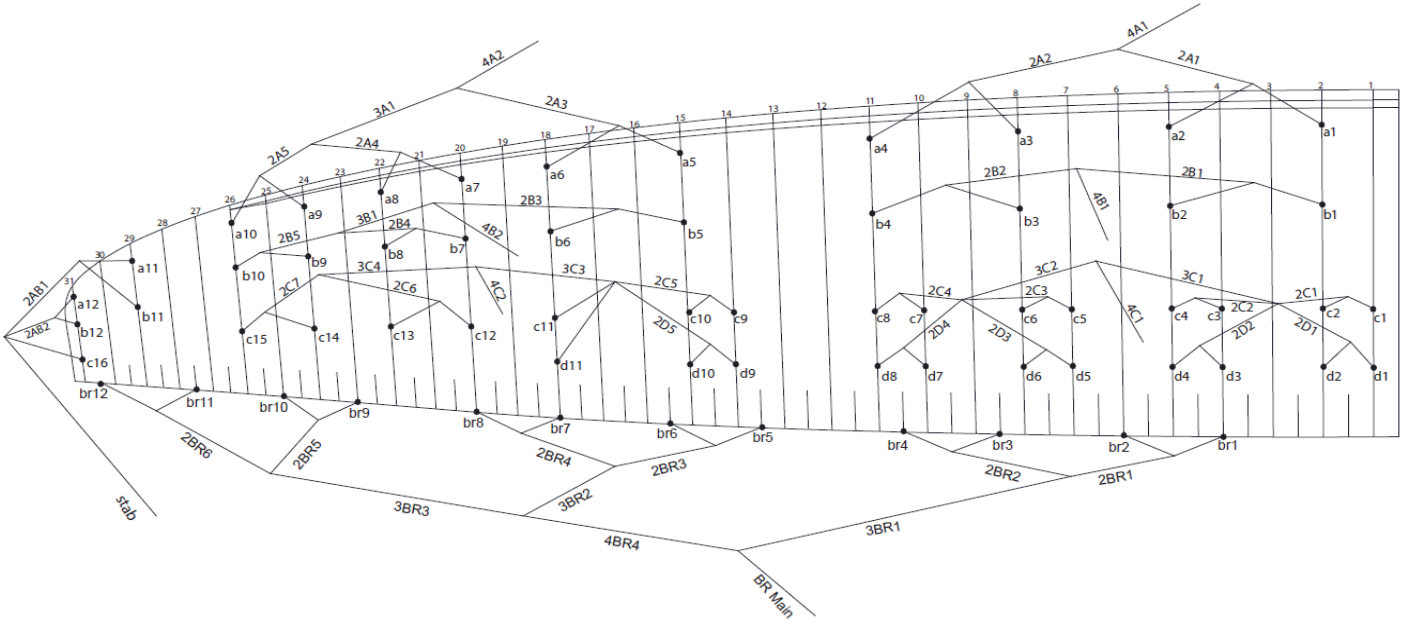
10.3 RISERS PLAN

SIZE 23-25



SIZE 21-27-29

10.4 SUSPENSION PLAN



10.5 DIMENSIONS ARTIK 4 21

LINES HEIGHT m/m

	A	B	C	D	br
1	6463	6374	6545	6630	7132
2	6327	6240	6446	6539	6857
3	6290	6205	6322	6425	6647
4	6285	6205	6306	6403	6647
5	6229	6151	6265	6361	6544
6	6078	6010	6251	6350	6414
7	6034	5974	6297	6389	6345
8	5967	5915	6343	6426	6385
9	5945	5896	6224	6300	6335
10	5959	5930	6151	6229	6306
11	5657	5622	6056	6135	6325
12	5526	5518	6044		6401
13			6004		
14			6025		
15			6107		
16			5570		

RISERS LENGHT m/m

	A	B	C	
	470	470	470	STANDARD
	344	374	470	ACCELERATED
	126	96	0	TRAVEL

10.6 DIMENSIONS ARTIK 4 23

LINES HEIGHT m/m

	A	B	C	D	br
1	6786	6693	6882	6973	7482
2	6645	6554	6780	6879	7195
3	6608	6520	6650	6760	6976
4	6605	6521	6629	6737	6977
5	6548	6466	6587	6690	6870
6	6390	6320	6573	6678	6735
7	6345	6282	6622	6720	6663
8	6275	6220	6670	6759	6706
9	6252	6201	6548	6639	6655
10	6267	6236	6472	6565	6624
11	5950	5913	6373	6456	6645
12	5813	5805	6360		6757
13			6318		
14			6340		
15			6425		
16			5858		

RISERS LENGHT m/m

	A	A’	B	C	
	470	470	470	470	STANDARD
	312	332	352	470	ACCELERATED
	158	138	118	0	TRAVEL

10.7 DIMENSIONS ARTIK 4 25

LINES HEIGHT m/m

	A	B	C	D	br
1	7020	6923	7119	7219	7739
2	6875	6781	7013	7122	7443
3	6838	6747	6880	7000	7217
4	6836	6749	6858	6977	7218
5	6778	6694	6816	6928	7110
6	6616	6543	6802	6916	6970
7	6570	6505	6853	6960	6896
8	6497	6441	6903	7001	6941
9	6474	6421	6779	6868	6889
10	6489	6458	6700	6791	6857
11	6161	6123	6599	6680	6880
12	6020	6012	6584		6981
13			6541		
14			6563		
15			6652		
16			6067		

RISERS LENGHT m/m

	A	A’	B	C	
	470	470	470	470	STANDARD
	312	332	357	470	ACCELERATED
	158	138	113	0	TRAVEL

10.8 DIMENSIONS ARTIK 4 27

LINES HEIGHT m/m

	A	B	C	D	br
1	7330	7230	7433	7539	8089
2	7181	7083	7323	7438	7781
3	7144	7049	7186	7312	7547
4	7143	7053	7163	7288	7549
5	7084	7002	7120	7234	7437
6	6916	6846	7106	7221	7293
7	6868	6801	7160	7267	7216
8	6793	6735	7212	7310	7263
9	6769	6715	7086	7180	7210
10	6786	6753	7004	7100	7178
11	6444	6404	6898	6984	7201
12	6296	6288	6883		7324
13			6838		
14			6861		
15			6953		
16			6340		

RISERS LENGHT m/m

	A	B	C	
	470	470	470	STANDARD
	312	352	470	ACCELERATED
	158	118	0	TRAVEL

10.9 DIMENSIONS ARTIK 4 29

LINES HEIGHT m/m

	A	B	C	D	br
1	7695	7590	7791	7903	8444
2	7541	7438	7677	7797	8123
3	7504	7399	7533	7661	7879
4	7505	7405	7510	7637	7881
5	7444	7353	7466	7586	7766
6	7269	7188	7452	7573	7620
7	7219	7147	7509	7622	7541
8	7141	7078	7564	7667	7591
9	7116	7057	7446	7535	7536
10	7133	7098	7361	7451	7502
11	6770	6733	7251	7338	7528
12	6615	6612	7229		7627
13			7182		
14			7206		
15			7293		
16			6666		

RISERS LENGHT m/m

	A	B	C	
	470	470	470	STANDARD
	312	352	470	ACCELERATED
	158	118	0	TRAVEL

10.10 CERTIFICATION SPECIMEN TEST

ARTIK 4 21

para-test.com
paragliding by air turquoise

Air Turquoise SA
Rte du Pré-au-Comte 8 | CH-1844 Villeneuve
tel. +41 21 965 65 65 | mobile +41 79 202 52 30
info@para-test.com

NIVIUK

Class: **C**

In accordance with EN standards 926-2:2013 & 926-1:2006: **PG_0891.2014**

Date of issue (DMY): **03. 03. 2015**

Manufacturer: **Niviuk Gliders / Air Games S.L.**

Model: **Artik 4 21**

Serial number:

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**73**	Range of speed system (cm)	**10.5**
Minimum weight in flight (kg)	**60**	Speed range using brakes (km/h)	**15**
Glider's weight (kg)	**4.3**	Range of trimmers (cm)	**0**
Number of risers	**3**	Total speed range with accessories (km/h)	**29**
Projected area (m2)	**17.8**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 24 months or every 100 flying hours
Harness brand	**Flugsau**	Warning! Before use refer to user's manual
Harness model	**Lightsau**	Person or company having presented the glider for testing: **None**
Harness to risers distance (cm)	**40**	
Distance between risers (cm)	**40**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
A	A	B	C	A	A	A	A	A	B	A	A	A	C	A	A	A	A	A	B	B	A	0	□

ARTIK 4 23

para-test.com
paragliding by air turquoise

Air Turquoise SA
Rte du Pré-au-Comte 8 | CH-1844 Villeneuve
tel. +41 21 965 65 65 | mobile +41 79 202 52 30
info@para-test.com

NIVIUK

Class: **C**

In accordance with EN standards 926-2:2013 & 926-1:2006: **PG_0892.2014**

Date of issue (DMY): **14. 11. 2014**

Manufacturer: **Niviuk Gliders / Air Games S.L.**

Model: **Artik 4 23**

Serial number:

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**80**	Range of speed system (cm)	**15**
Minimum weight in flight (kg)	**60**	Speed range using brakes (km/h)	**15**
Glider's weight (kg)	**4.9**	Range of trimmers (cm)	**0**
Number of risers	**3**	Total speed range with accessories (km/h)	**31**
Projected area (m2)	**19.5**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 24 months or every 100 flying hours
Harness brand	**Sup' Air**	Warning! Before use refer to user's manual
Harness model	**Altiplume S**	Person or company having presented the glider for testing: **None**
Harness to risers distance (cm)	**44**	
Distance between risers (cm)	**44**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
A	A	A	C	A	A	A	A	A	B	A	A	A	C	A	A	A	A	A	A	B	A	0	□

ARTIK 4 25

para-test.com
paragliding by air turquoise

Air Turquoise SA
Rte du Pré-au-Comte 8 | CH-1844 Villeneuve
tel. +41 21 965 65 65 | mobile +41 79 202 52 30
info@para-test.com

NIVIUK

Class: **C**

In accordance with EN standards 926-2:2013 & 926-1:2006: **PG_0893.2014**

Date of issue (DMY): **14. 11. 2014**

Manufacturer: **Niviuk Gliders / Air Games S.L.**

Model: **Artik 4 25**

Serial number:

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**95**	Range of speed system (cm)	**15**
Minimum weight in flight (kg)	**75**	Speed range using brakes (km/h)	**15**
Glider's weight (kg)	**5.2**	Range of trimmers (cm)	**0**
Number of risers	**3**	Total speed range with accessories (km/h)	**31**
Projected area (m2)	**20.77**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 24 months or every 100 flying hours
Harness brand	**Flugsau**	Warning! Before use refer to user's manual
Harness model	**Lightsau**	Person or company having presented the glider for testing: **None**
Harness to risers distance (cm)	**41**	
Distance between risers (cm)	**44**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
A	A	B	A	A	A	A	A	A	B	A	A	A	C	A	A	A	A	A	B	B	A	0	

ARTIK 4 27

para-test.com
paragliding by air turquoise

Air Turquoise SA
Rte du Pré-au-Comte 8 | CH-1844 Villeneuve
tel. +41 21 965 65 65 | mobile +41 79 202 52 30
info@para-test.com

NIVIUK

Class: **C**

In accordance with EN standards 926-2:2013 & 926-1:2006: **PG_0894.2014**

Date of issue (DMY): **18. 11. 2014**

Manufacturer: **Niviuk Gliders / Air Games S.L.**

Model: **Artik 4 27**

Serial number:

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**110**	Range of speed system (cm)	**14**
Minimum weight in flight (kg)	**90**	Speed range using brakes (km/h)	**15**
Glider's weight (kg)	**5.6**	Range of trimmers (cm)	**0**
Number of risers	**3**	Total speed range with accessories (km/h)	**31**
Projected area (m2)	**22.46**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 24 months or every 100 flying hours
Harness brand	**Niviuk**	Warning! Before use refer to user's manual
Harness model	**Hamak XL**	Person or company having presented the glider for testing: **Olivier Nef**
Harness to risers distance (cm)	**44**	
Distance between risers (cm)	**48**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
B	A	A	A	A	A	A	A	A	B	B	A	A	C	A	A	A	A	A	B	A	A	0	

para-test.com
paragliding by air turquoise

Air Turquoise SA
Rte du Pré-au-Comte 8 | CH-1844 Villeneuve
tel. +41 21 965 65 65 | mobile +41 79 202 52 30
info@para-test.com

NIVIUK

Class: **C**

In accordance with EN standards 926-2:2013 & 926-1:2006: **PG_0895.2014**

Date of issue (DMY): **10. 02. 2015**

Manufacturer: **Niviuk Gliders / Air Games S.L.**

Model: **Artik 4 29**

Serial number:

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**126**	Range of speed system (cm)	**15**
Minimum weight in flight (kg)	**105**	Speed range using brakes (km/h)	**15**
Glider's weight (kg)	**6**	Range of trimmers (cm)	**0**
Number of risers	**3**	Total speed range with accessories (km/h)	**31**
Projected area (m2)	**24.59**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 24 months or every 100 flying hours
Harness brand	**Niviuk**	Warning! Before use refer to user's manual
Harness model	**Hamak XL**	Person or company having presented the glider for testing: **None**
Harness to risers distance (cm)	**44**	
Distance between risers (cm)	**48**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
B	A	A	C	A	A	A	A	A	B	A	A	A	C	A	A	A	A	A	B	A	A	0	

The importance of small details
niviuk.com